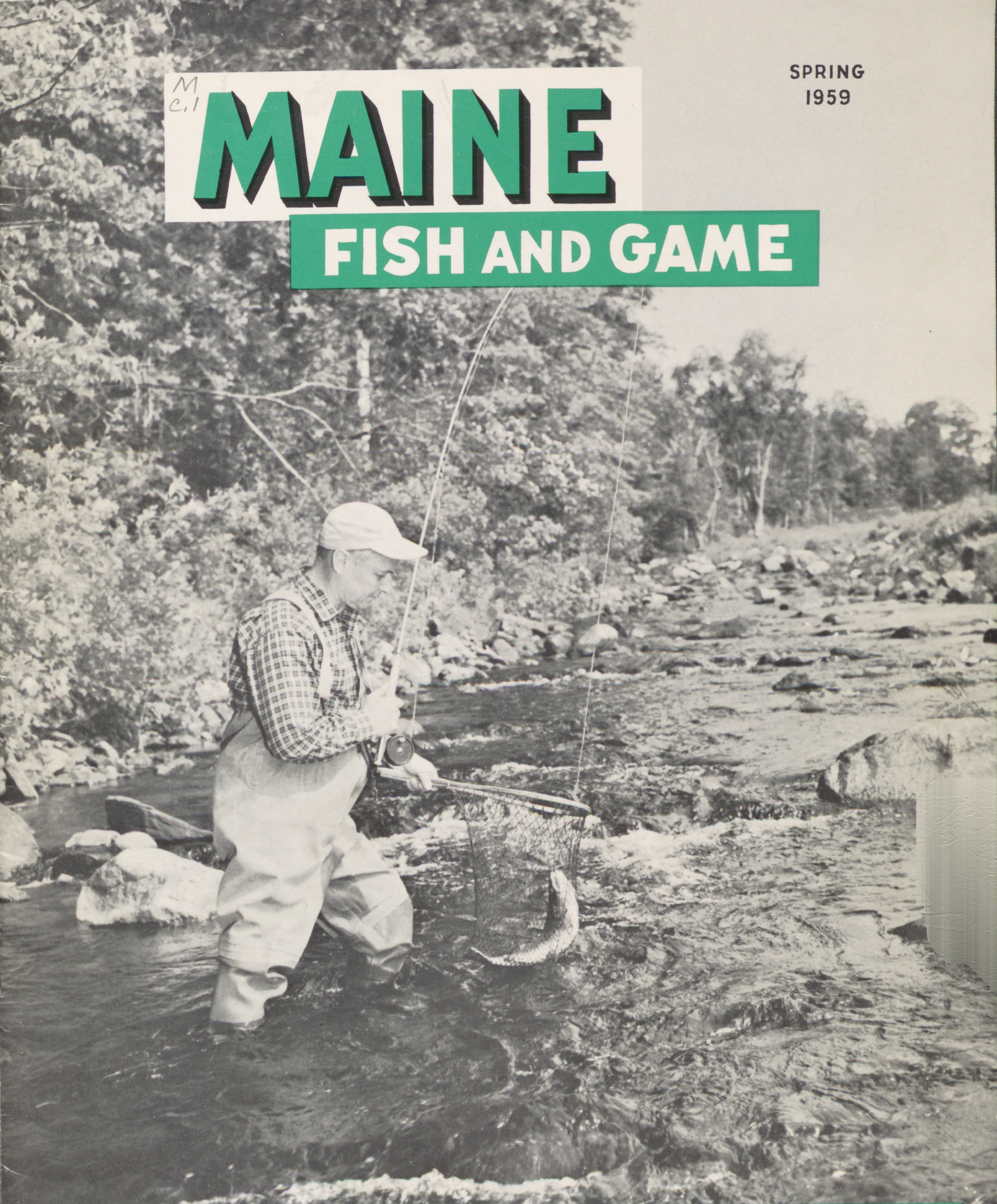
MAINE
FISH AND GAME

SPRING
1959



FEATURING: DEER SEASON RECOMMENDATIONS AND ATLANTIC SALMON PROGRAM

MAINE DEPARTMENT OF INLAND FISHERIES AND GAME

MAINE
FISH AND GAME

STATE OF MAINE

CLINTON A. CLAUSON, Governor

DEPARTMENT OF
INLAND FISHERIES AND GAME

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Spring, 1959 Vol. 1, No. 1

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PHOTO CREDITS

All photographs in this issue were made by the Information and Education Division staff except as otherwise noted. Cover design and sketches by Ted Bunker.

A MESSAGE FROM COMMISSIONER COBB

THIS first issue of **Maine Fish and Game** represents something of a milestone in the history of the Department of Inland Fisheries and Game. For several years now fishermen and hunters who love the State of Maine and follow closely the work of our department have asked why we didn't put out some sort of publication to keep them better informed.

Here's our answer. We hope you will enjoy reading it and send in your suggestions and comments.

Maine has for some time been one of the few major hunting and fishing states that has not had a magazine-type publication designed to bring sportsmen and their fish and game management agency closed together in thought and action.

The sports of hunting and fishing have been growing by leaps and bounds and in terms of revenue are a vital part of the Maine economy. As these sports increase in popularity, demands on our fish and wildlife populations become greater.

This means ever-increasing emphasis on research and management to insure perpetuation of these valuable natural resources. Consequently, the work of the Department of Inland Fisheries and Game has been growing more complex each year, and the need for keeping sportsmen informed is more important than ever.

Because of budget limitations, we do not plan to plunge headlong into the magazine publishing field. But we do feel that sportsmen interested in Maine would appreciate receiving two issues of **Maine Fish and Game** a year, one in the spring and one in the fall. The fall issue will also include our annual report.

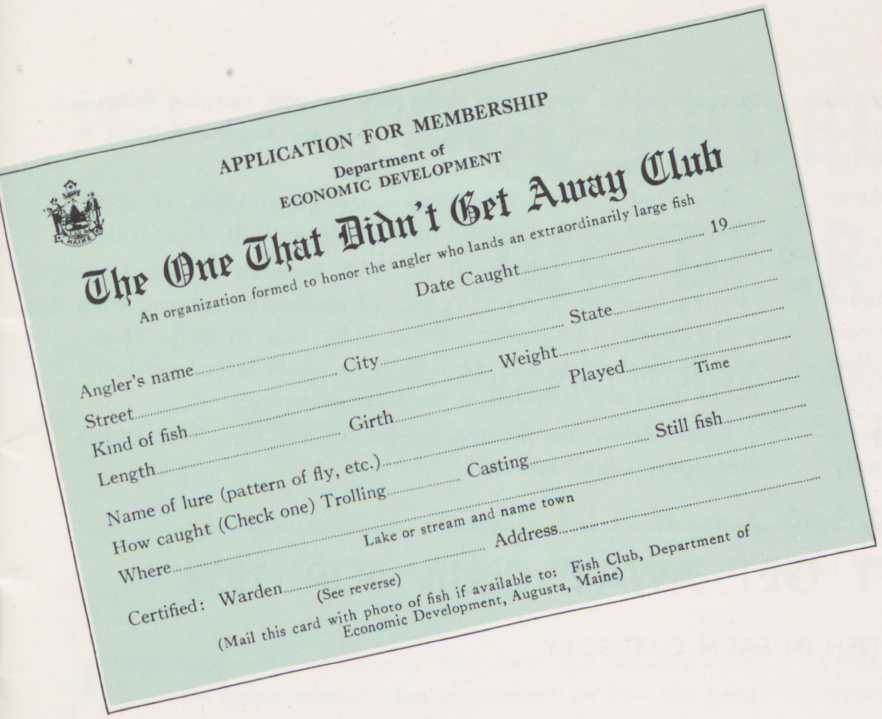
Interested sportsmen and conservation minded citizens may receive a copy of **Maine Fish and Game** by writing to the Department of Inland Fisheries and Game, State House, Augusta. This first issue has been mailed to all persons on our regular mailing list. New requests will be honored and names added to our mailing list until our supplies are exhausted.

It is our hope that you will find **Maine Fish and Game** interesting and informative, and we hope it will become a regular feature of the Maine hunting and fishing scene. Let's hear from you.

Sincerely

Roland H. Cobb.

Commissioner



APPLICATION FOR MEMBERSHIP

Department of
ECONOMIC DEVELOPMENT

The One That Didn't Get Away Club

An organization formed to honor the angler who lands an extraordinarily large fish

Date Caught ..... 19....

Angler's name ..... City ..... State .....

Street ..... Weight .....

Kind of fish ..... Girth ..... Played ..... Time .....

Length .....

Name of lure (pattern of fly, etc.) .....

How caught (Check one) Trolling ..... Casting ..... Still fish .....

Where ..... Lake or stream and name town

Certified: Warden ..... Address .....

(See reverse)

(Mail this card with photo of fish if available to: Fish Club, Department of Economic Development, Augusta, Maine)

MAINE'S EXCLUSIVE ANGLERS' CLUB

DEPARTMENT OF ECONOMIC DEVELOPMENT REPORTS 99 FISHERMEN QUALIFIED FOR "THE ONE THAT DIDN'T GET AWAY CLUB" IN 1958 SEASON

EVERY time fishermen get together, there are bound to be vivid tales about the "big ones." There's something about catching a big fish (or the **thoughts** of catching one) that stirs otherwise honest and upstanding citizens to take a few liberties with the truth. This time-tested attribute of the average Isaak Walton can sometimes prove frustrating when he "is" telling the truth about one of his fishing exploits and his utterances fall on deaf ears.

Maine solved the problem back in 1939 when "The One That Didn't Get Away Club" was first organized. Since that time, hundreds of big Maine lunkers have been registered by proud fishermen, for posterity and for proof positive around the hot stove league.

The club got its start through the foresight of public relations men working for the old Maine Development Commission. When the Maine Department of Economic Development was organized, "The One That Didn't Get Away Club" became a yearly feature of that department's Recreational Promotion Division. The fisherman's club proved so popular that a similar one was formed recognizing deer hunters who bag trophy bucks.

In order to qualify for this club, a fisherman must hold a Maine license and catch his trophy in accordance with the fishing laws of the state. Weights of fish must be checked by an Inland Fisheries and Game Warden, but if the lucky angler happens to be in a remote area he can have two disinterested persons check his catch and report later to a warden.

Official application cards are carried by all wardens; they are mailed by either the warden or the angler to the Maine Department of Economic Development, State House, Augusta.

Minimum weights of Maine game fish which qualify for "The One That Didn't Get Away Club" are as follows:

Landlocked salmon	8 lbs.
Brown trout	8 lbs.
Rainbow trout	8 lbs.
Eastern brook trout	5 lbs.
Black bass	5 lbs.
Lake trout (togue)	15 lbs.
Atlantic sea-run salmon	15 lbs.
White perch	3 lbs.

Obviously it takes a big fish to make the club, yet the enrollment continues to increase each fishing season with some really outstanding catches reported. This speaks well for the quality of Maine fishing.

In 1958, the Department of Economic Development officially recognized 99 new members in the club, which was nearly double the number of new members enrolled the pre-

vious year. Official recognition of an outstanding catch includes a handsome certificate signed by the Governor of Maine and a blue shoulder patch outlined in gold with the words "Member Maine's The One That Didn't Get Away Club."

Since its inception in 1939, the club has enrolled well over one thousand members. And despite the frequently heard comment that trophy size fish are becoming scarce, the records indicate that more fishermen are making the club than ever before.

The 1958 fishing season was particularly outstanding for the number of big eastern brook trout it produced. Twenty-three brookies made the club, with weights ranging from 5 lb. 1 oz. to a top of 8 lb. 5 oz. These are big brook trout in any man's language.

Some hefty brown trout, too, qualified in 1958, 17 in all, with weights ranging from 8 lb. 1 oz. to a 19 lb. 7 oz. lunker.

Other species registered in 1958 included 9 lake trout ranging from 15 lb. to 31½ lb.; 12 landlocked salmon, from 8 to 12½ lb.; 13 Atlantic salmon, 15 lb. 1 oz. to 19 lb. 14 oz.; and 24 black bass, 5 lb. to 7 lb. 4 oz. Both large and smallmouth bass are included in the bass category.

Listed below are the top entries in "The One That Didn't Get Away Club" for 1958.

THE ONE THAT DIDN'T GET AWAY CLUB FOR 1958

TOP FOUR FISH IN EACH CATEGORY

Fisherman	Pounds and ounces	Length, inches	Minutes played	Lure	Where Caught
BROOK TROUT					
Dixon Griffin, Dixfield, Me.	8-5	24¾	20	Dave Davis Spoons	Pierce Pond
Thomas G. Haddock, Kensington, Conn.	7-10	25¾	10	Gray Ghost	Pierce Pond
Alfred Blake, Scituate, Mass.	7-4	24½	15	R & W Bucktail	Pierce Pond
Erastus Corning, 2nd, Albany, N. Y.	7-2	23½	23	Mickey Finn	Pierce Pond
BROWN TROUT					
Norman Stacy, Fitchburg, Mass.	19-7	34	40	Flat Fish	Sebago Lake
James Heath, Raymond, Me.	17-4	32	45	Mooselukwabbler	Sebago Lake
Neil W. Libby, Sr., Hope, Me.	12-5	31	—	Smelt	Swan Lake
Paul A. Beaudoin, Berwick, Me.	11-0	29	15	Live bait	Great East Lake
LAKE TROUT (TOGUE)					
Hollis Grindle, Ellsworth, Me.	31-8	41	30	Live bait	Beech Hill Lake
Alton Roberge, Winslow, Me.	21-2	38¾	20	Live sucker	Moosehead Lake
Lucien Drouin, Waterville, Me.	20-8	37	45	Sucker	Moosehead Lake
Albert Ouellette, Waterville, Me.	18-13	35½	40	Sucker	Moosehead Lake
LANDLOCKED SALMON					
Patrick Gagnon, Presque Isle, Me.	12-8	32	40	Night crawlers	Cross Lake
Edmund Dumond, Sinclair, Me.	11-0	30½	30	Slim Jim fly	Long Lake
Sylvo Martin, Sinclair, Me.	10-12	28¼	15	Live bait	Long Lake, FR Chain
Murray Currier, Caribou, Me.	10-0	30½	30	Lt. Montreal	Cross Lake
ATLANTIC SALMON					
Arthur R. Whalen, E. Corinth, Me.	19-14	38	60	Hathaway Special	Machias River
Arthur Oxton, Lincolnville, Me.	19-2	38	30	#4 Badger Wulfefly	Narraguagus River
Norman Hathaway, Brewer, Me.	18-10	37	10	#4 Red Sq. (Wet)	Narraguagus River
Roger Wakefield, Columbia Falls, Me.	18-8	37	10	Cosseboom (Wet)	Narraguagus River
BLACK BASS					
Ray Richardson, Gardiner, Me.	7-4	22	10	Flat Fish	Cobbossee Stream
Mahlon H. Thomas, Gardiner, Me.	6-4	20½	—	Frog	Cobbossee Stream
James R. Thornton, Gardiner, Me.	6-4	21	6	Live bait	Cobbossee Stream
Robert Lowe, Wappingers Falls, N. Y.	6-4	21	20	Black Jitterbug	Messalonskee Lake

FOOD PROBLEMS OF OUR DEER HERD

A MUCH DISCUSSED PROBLEM INVOLVES OUR DEER AND THEIR WINTER FOOD SUPPLY. HERE IS EVIDENCE TO EXPLAIN THE DIFFICULTY

Chester F. Banasiak, Deer Research Leader
Maine Department of Inland Fisheries and Game

THERE is general agreement that deer are Maine's most important game species. But agreement on how the herd should be managed is less easily reached. Everyone has an opinion on the subject, based on what he honestly believes is needed for the future welfare of the deer herd. However, many of the opinions are expressed without recognizing or considering the basic problem in our herd.

The Game Division, being responsible for management of all game species, has been studying the statewide deer herd for about seven years. Information collected during that period on winter range and deer condition has pointed to a shortage of winter food in the "big woods" sections of northern and east-central Maine.

We need increased hunting pressure and kill in our problem areas. Such adjustments of winter herd sizes would be aimed at maintaining moderate sized, productive herds, in balance with their winter food supply, over a long period of time.

BASIS FOR DEER MANAGEMENT

Simply stated, successful manageagement of deer requires that they be provided with adequate food, shelter, and some degree of protection. Food and shelter requirements are most critical during our long winters. At that time, deer in most sections concentrate in sheltered sites offering the most comfort. This habit, commonly called yarding, restricts deer to only a small portion of their total range. In our problem area, less than 10 percent of the total area is occupied by deer during the winter.

During the time deer are concentrated, they are dependent upon the food available in and about their yards. Therefore, the number of deer the state can adequately support depends upon the condition of the winter range.

Yarding generally occurs in the same sites winter after winter. Hence, browse (twigs of shrubs and trees) consumed must be replaced by new growth each growing season, to maintain the deer using the yard. Although too high a population of deer, eating more than can be replaced, may be temporarily maintained, eventually the deer as well as the range are affected.

Poorly nourished deer, especially the younger ones, display certain symptoms when compared with others on an adequate diet. Antler development is poorer, weights are less, and body size tends to be smaller. While the deer may "look good," they would, under conditions of better winter food, look even better, have larger antlers, and be in better shape generally. More important, productivity is lower among undernourished does. As a result, fewer fawns are born and raised successfully.

TABLE 1. COMPARISON OF DEER FROM FARM-WOODLAND AND FOREST RANGES (1954-1957)

	Farm-woodlands (best range)	Number of deer sampled	Forest	Number of deer sampled
Yearling antlers				
Diameters (millimeters)	17.4	(1012)	13.9	(938)
Number points	3.1	(807)	2.4	(765)
Per cent spikes	51	(807)	75	(765)
Fawn weights (pounds)				
Males	64	(236)	59	(181)
Females	55	(122)	52	(92)
Yearling weights (pounds)				
Males	113	(362)	97	(172)
Females	99	(164)	88	(63)
Fawns per 100 does	97	(3798)	80	(4307)

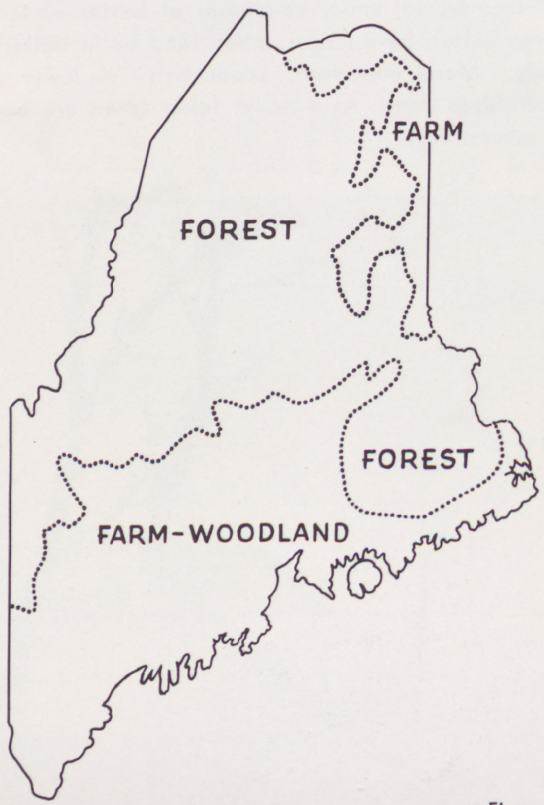


Figure 1

With smaller fawn crops, there is a decline in the ability of a herd to replace losses. Consequently, the herd eventually decreases in size. This process continues until the reduced population is in balance with its winter food supply. Mild winters may prolong the process and severe ones hasten it, through starvation losses, but sooner or later nature has its way.

When reduction of deer populations is accomplished "nature's way," relatively few deer are left in badly overbrowsed yards. Good management, however, can help prevent the natural peaks and lows of deer abundance. To do so, it is necessary to maintain moderate size herds in comparative balance with their winter food. Ideally, populations should not be allowed to expand to a size resulting in a food shortage. Further, where food shortages **are** occurring, the wintering herds should be reduced by harvesting a greater proportion of the fall herd.

MAINE'S DEER SITUATION

To obtain an understanding of the deer situation throughout the state, game biologists have collected and analyzed information from three sources. These include winter surveys of 447 deer yards, age and measurements of more than 15,000 deer killed during recent hunting seasons, and records of the registered deer kill.

Yard Surveys: Since the winter of 1953-54, biologists have examined 447 deer concentration areas. Each of the

TABLE 2. SUMMARY RANKING OF REGIONS BY DEER CHARACTERISTICS

	Southern Farm	Northern Farm	Southern Hanc. - Wash.	Forest Border	Forest Interior
Yearling antlers					
Diameter	1	2	3	4	5
No. Points	1	3	2	4	5
Weights					
Fawn male	1	2	4	5	3
Yearling male	1	2	3	4	5
Hind foot length					
Fawn male	2	1	1	3	4
Fawn female	2	2	1	3	3
Productivity					
Potential	1	2	4	5	3
Fawn rearing success	2	1	4	3	5
Total	11	15	23	31	33
Summary rating	1.4	1.9	2.9	3.9	4.1

yards was rated on the basis of deer use of the food available. For the state as a whole, about one out of four yards was judged to have too many deer for the amount of browse present.

However, when yard locations and conditions were plotted on a state map, it was evident that 95 percent of the over-browsed yards could be enclosed in one continuous problem area. Also, it was evident that our problem area followed the boundaries of our forest region (Figure 1). There, of 264 yards examined, four out of ten were found over-browsed. In contrast, among 183 yards cruised in the more settled, farm-woodland sections, only one of ten was in that condition.

Deer Condition: In comparing deer from the farm-woodland and forest regions, the effects of the difference in winter range condition is also apparent (Table 1). In all comparisons, deer from the forest region were inferior to those from the farm-woodland. Among yearlings, average antler diameters were smaller, points were fewer, and the proportion of "spike horns" was greater. Weights of deer, too, reflect the difference in range quality. Fawns and yearlings, both males and females, killed in the forest region, dressed out lighter than those from the farm section. Finally, does from the forest region raised fewer fawns.

All of the above indications point to the same conclusion. The deer in the forest problem area are relatively poorly nourished.

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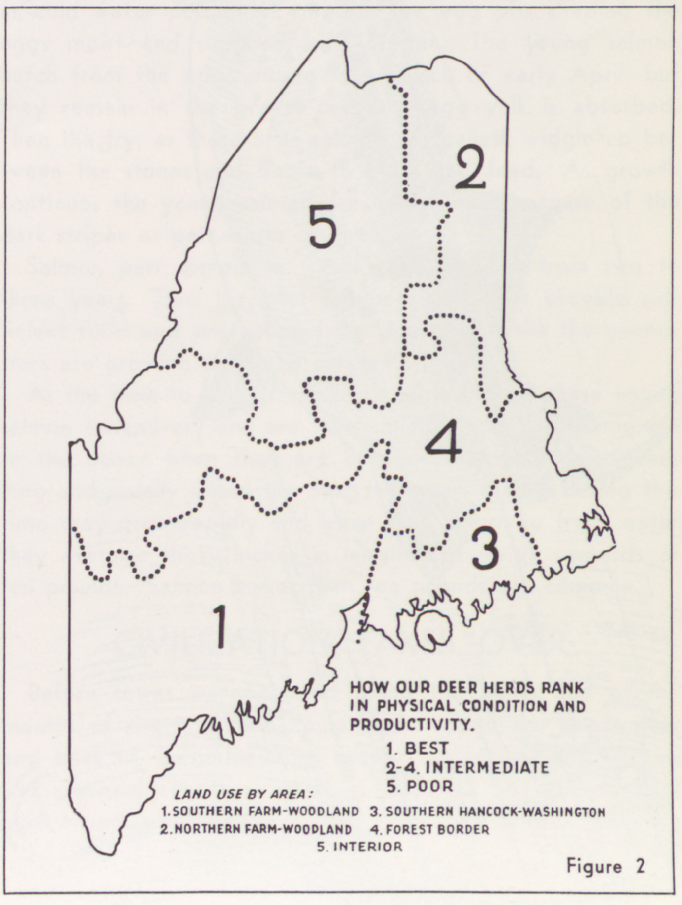

Figure 2

THE ATLANTIC

THE Atlantic salmon is top royalty. But like some other monarchs in recent times, this king of game fish has been in trouble. Rivers that were once his province have been blocked by dams and polluted with sewage and industrial wastes. For many years his ranks were depleted by reckless and uncontrolled commercial fishing.

Alarmed that the royal salmon might disappear entirely from our coastal rivers, sportsmen and scientists have been waging a campaign to restore this prize game fish to his rightful place in Maine rivers.

* * * * * *

In the days when all fishermen in Maine were Indians our rivers were plentifully supplied with Atlantic salmon. Many old reports tell of the great numbers that were taken with spear and dip net. But this was before dams were built that blocked the salmon runs and before the waters were poisoned with wastes.

The Atlantic is noted for his hardiness and for the spectacular courage with which he fights his way upstream to the spawning grounds. But no amount of courage can help him over dams that have not been provided with passageways that work. Nor can he live in water spoiled by decaying organic wastes.

SALMON-FAVORED RIVERS

Being royalty, the Atlantic must travel first class. And so first-class waterways he must have.

A first-class salmon river must have several things. It must let the salmon move up and downstream without undue hardship. It must have suitable spawning areas—stream bottoms of coarse gravel or rubble in riffles where clean, cool water running through the stones will keep the eggs supplied with oxygen during their long incubation period from late fall to

SALMON

the following spring, when the eggs hatch. A first-class salmon river must have sufficient flow, so that the adults can swim up it during early summer. And finally, the river must have cool, deep, shaded pools where the early-arriving fish can spend the summer while they await the autumn spawning season.

Some Atlantics stay in the ocean until September and October before migrating upstream to the spawning beds. But most enter the rivers at the time of the spring freshets. The actual spawning period begins in October and lasts into November.

When the female arrives at the spawning beds she chooses her own personal nesting site. This is usually at the head of a riffle or the tail of a pool where the current is brisk. Nesting areas are sometimes called redds, and each one will contain several egg pits.

The female digs the pit by turning on her side and flapping vigorously with her fins and tail. Actually most of the digging is caused by the water currents she stirs up rather than by the contact of her body.

As she works she takes frequent rest periods, but the job of nest-building is all hers. The male, meanwhile, is standing by, fighting off other males that come nosing around, and in general doing the heavy looking on. From time to time he jollies up his hard-working spouse by nuzzling her and chasing her around a bit, probably to keep her spirits up and express his approval.

When the nest is finished the female settles into it. The male then takes his position beside her and the eggs and sperm are extruded into the pit. Eddy currents mix the eggs and sperm together and hold the eggs in the pit until the female covers them with gravel. This she does by moving upstream a short way and digging another pit. The displaced gravel is carried downstream and covers the eggs in the pit below. Eggs are usually buried five or six inches deep, but some may be found as deep as ten inches. A completed nest will measure from three to twenty feet in length and from two to three feet in width.

After spawning, both male and female usually migrate back to the ocean. Some, however, remain over the winter and return to salt water in the spring.

In their gravel nest the thick-walled eggs slowly develop as cold water percolates through the egg pits keeping the eggs moist and supplied with oxygen. The young salmon hatch from the eggs during late March or early April, but they remain in the gravel until the egg yolk is absorbed. Then the fry, as these little salmon are called, wiggle up between the stones and begin to swim and feed. As growth continues the young salmon are called parr because of the dark stripes or parr-marks on their sides.

Salmon parr remain in fresh water streams from two to three years. Thus the best salmon rivers must provide sufficient food and protection from predators while the youngsters are growing up in the nursery area.

As the time to leave fresh water approaches, these young salmon turn silvery and are then called smolts. They migrate to the ocean when they are between five and nine inches long and usually spend the next two years there. During this time they grow rapidly and when they return to fresh water they average thirty inches in length and weigh upwards of ten pounds. Salmon larger than ten pounds are common.

CIVILIZATION TAKES OVER

Before towns were planted along the banks and at the mouths of rivers, salmon could move up to the headwaters and back to sea unhindered except for natural obstructions and seasonal conditions such as droughts. At one time at least twenty rivers in Maine had good-sized salmon runs.

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No, sir, Fred, I ain't never goin' fishin' again. Leastwise not with Bootjack Tuttle.

TOLL CALL

A SHORT STORY

by

GEORGE W. LATER

HULLO! Hullo! Whatcha say? Oh, is that you, Fred? Well, how's things down there in 'Netticutt?

Whatcha say, Fred? Naw, I don't want to go fishin'. Not me! Whatsa matter? Well, I'm as mad as a yeller hornet. Naw, not at you, Fred! 'Course not. It's that so-called pal of mine, Bootjack Tuttle. He ain't no pal of mine now, though. I'm fed up with his wild idees and shenanigans. Furthermore I ain't never goin' to fish again. Leastwise not with him.

Say, Fred, this here toll call warn't collect, was it? Whatcha say, Fred? Naw, I didn't think for a minnit you'd call collect, but you know Martha. She ain't apt to favor these extravagant telephone calls. Anyhow, Fred, I ain't in no particular hurry. Let me tell you 'bout the mess Bootjack drug me into.

Well, you know Bootjack got sore at Hank Hookum, the game warden, a coupla years ago. Whatcha say, Fred? You didn't know about that? Well, it seems Bootjack took a coupla bushel of spawners outa Trout Brook one fall with a gill net, both acts bein' again the law and illegal like, and the season closed to boot. Old Hookum pinched Bootjack and it cost him plenty. Judge Fynemaul soaked him a dollar for each trout.

Well, Bootjack got awful sore about that. He ups and tells Old Hookum he didn't mind bein' caught red-handed, but twarn't very sportin' of Hookum to sneak about in the brush like an Injun and catch him when he warn't lookin'. Bootjack claimed Hookum should of walked out like a man with a clean conscience, officer that he was, and give him a headstart over the ridge. No, Operator, we're still talkin'. And Old Hookum allowed he warn't paid to play games with the likes of any poacher like Bootjack. Well, Fred, if two yeller hornets hadda bradded Bootjack in the bottom it wouldn't of hurt him as much. He allowed if he had the name he'd have the game, and he's been schemin' ever since as to how he'd beat Old Hookum.

Whatcha say, Fred? How'd I get involved? Well, it's like this. Bootjack knows I'm pretty handy with tools and such. Got a nice little shop here in my shed. You've seen it, Fred. So up he comes here one day and asks me to make him somethin' to use out at Skipper's Well.

Whatcha say, Fred? Skipper's Well. Ain't you never been there? Well, it's that little pond Burntdam Creek starts from. Lots of trout in it. And right in the middle's a deep hole, spring fed, that Old Skipper lives in.

Yes, sir, Fred, that trout must weigh nigh onto six pound. Anyways, they call him Skipper 'cause he'll come up out of his well like a streak of milltail lightnin' when a fly looks good to him, but at the last minnit he smells a rat or somethin' and skips up over the fly and down into his well again.

Bootjack's been after that trout for a long time. He'd catch him, too, 'ceptin' that pond's got more regulations on it than there's trees to post 'em on.

Whatcha say, Fred? What kind of regulations? Well, there's a five-fish limit, fly fishin' only, no trollin' allowed, legal length eight inches, no fishin' allowed after sunset or before sunrise, and let's see—oh yes, no kind of worms or bait allowed on the pond for fishin' purposes or otherwise.

Well, like I says before, Bootjack would of had that trout 'cause he'd dabble a big gob of angleworms down in Skipper's Well. Only thing is, ever' time he goes out there Old Hookum shows up. Seems like he sits on the bank with a big pair of field glasses. That always made Bootjack awful mad. Narvous, too.

So Bootjack comes to me. You know what, Fred? He wanted me to make him a coatsleeve angleworm dispenser.

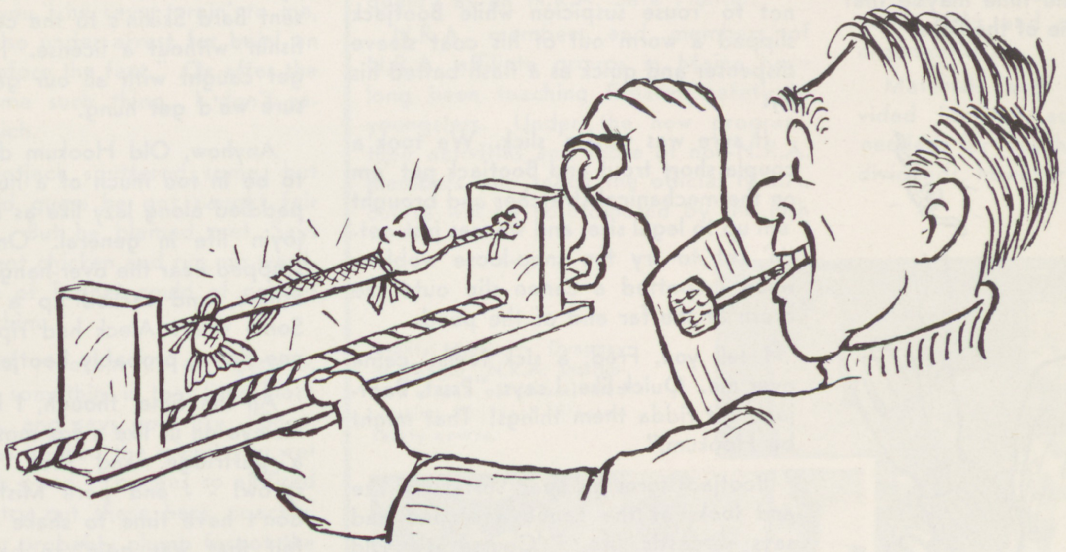
Natchurly I didn't want to get mixed up in any feud between him and Old Hookum. But I allus liked Bootjack. And, well, he finally talked me into it.

Quite a danged job, too, 'specially bein' top secret stuff. I didn't dare work on it when anyone was around. If it got nosed around so's Old Hookum found it out, and it's sure surprisin' how many friends he's got, we'd be licked before we started.

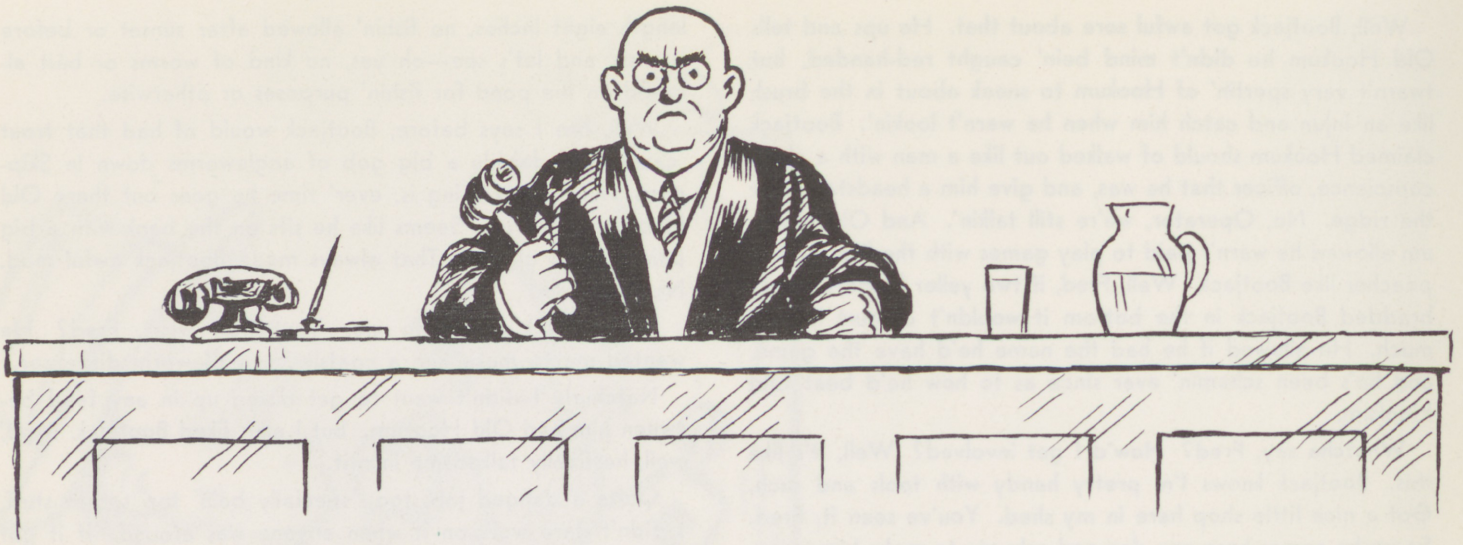
I finally got it finished and it worked slick. It strapped around your arm under the coatsleeve, and by pushin' your arm against the side of your body, a plunger dropped one angleworm right into your hand, and if Old Hookum was right in the boat he couldn't see nothin'.

Hullo! Hullo! You still there, Fred? Good! Well, as I was sayin', this here angleworm dispenser was so smooth that Bootjack went plumb crazy. He decided he wouldn't try it right off, but wait 'til we made a lot more gadgets to fool Hookum with.

You know what, Fred? Bootjack didn't go fishin' hardly at all the rest of the summer, and when he did he fished legal. I guess it even surprised Old Hookum. Anyways, it was un-



One of the uncanny ideas Bootjack came up with was a mechanical fish stretcher to make short trout legal.



canny the ideas Bootjack came up with. We built a mechanical fish stretcher to make short trout legal. We built a snap-loose Pearl Wobbler to use in fly fishin' waters, and if Old Hookum came along you'd give the line a heck of a jerk and the wobbler would come loose and sink, and Old Hookum wouldn't have no evidence. We worked nearly two weeks on a tank that would pump helium into fish and make 'em lighter in case you got over the limit in pounds. But we had to give that one up. It wouldn't work.

Then we put screw eyes in the keel of Bootjack's boat and tied set lines on 'em, the idea bein' to bait 'em before puttin' the boat in the water and no warden, includin' Hookum, could see lines under the boat. That way we could troll right over Skipper's Well pretendin' to fly fish and all the time maybe that big trout hung on one of the lines.

Whatcha say, Fred? Not much sport in that? Well, mebbe you're right. But Bootjack thought 'twas, and he must of had me hypmotized.

Well, Fred, the big day came when we decided to try out our gadgets. We felt pretty good. 'Twas as nice a day as you could ask for. Big white cottonball clouds and the purtiest blue sky over Shutdown Mountain. The road over the ridge to Skipper's Well was middlin' smooth, and Bootjack's old jeep purred along like a kitten and drug the old boat on the trailer, set lines on the keel and all.

Whatcha say? No, Operator, we're still talkin'. Well, Fred, we got to the landin', baited our set lines, and put the boat in. I rowed the boat kinda slow in case Old Hookum was watchin' so's not to 'rouse suspicion while Bootjack slipped a worm out of his coat sleeve dispenser and quick as a flash baited his fly.

It sure was workin' slick. We took a coupla short trout and Bootjack put 'em on the mechanical stretcher and brought 'em up to legal size, and we was just gettin' set to try the snap-loose wobbler when I spotted a canoe slip outa the brush at the far end of the pond.

I tell you, Fred, a sick feelin' came over me. Quick like, I says, "Pssst, Bootjack, git ridda them things! That might be Hookum."

Bootjack turns his head sorta slow like and looks at the canoe a second and says sarcastic like, " 'Course it's Old Hookum. See his badge glintin' in the sun. Bet he shines it every mornin' with his toothbrush. Well, he ain't got nothin' on us this time. Jest act natchural. Dang it, stop yer shakin'! It's a dead giveaway. Put yer hands in yer pocket. There now, I'll shake my coatsleeve down over this here angleworm dispenser."

You know, Fred, Bootjack was mighty cool and collected. He jest kept on fishin'. He brought his line in once, innocent like, and as if he was changin' flies but was really takin' the worm off. Me? I was scared as Mackie's heifer when she tried to jump the intervale fence and got hung up on the top strand. I sure wished I was home or some other place.

Whatcha say, Fred? What happened? Well, like I was sayin', I was plenty scared. Didn't bother me none 'til I see Old Hookum comin'. Then I begun to think of all the things that could go wrong. I thought of Judge Fynemaul, too. I remembered once he sent Bard Skillin's to the county jail for fishin' without a license. If we was to get caught with all our gadgets I was sure we'd get hung.

Anyhow, Old Hookum didn't appear to be in too much of a hurry. He jest paddled along lazy like as if he was enjoyin' life in general. Once he even stopped near the over-hangin' cliff, went ashore, and tacked up a new poster. Some smart Aleck had ripped the old one down, probably Bootjack.

All the time, though, I knew he had his eye on us like a fox moseyin' around a partridge, and then, sudden like, sprow! - - and pore Mister Partridge don't have time to shake a feather. I felt that was goin' to happen to us. Every time I'd squirm around, a gleam would come in Bootjack's eye. Well, I was really between the devil and the deep blue sea, as the fella says.

Anyhow, Fred, I couldn't stand it no longer. That waitin' game was too much for me. I grabbed the oars and made for the landin'. Bootjack was standin' up when I put the ash to her. He fell down in the boat and hit the angleworm dispenser on the seat and worms went slitherin' all over the bottom of the boat.

I was rowin' for all I was worth, but by that time Old Hookum was bearin' down on us. Bootjack was cussin' me and tryin' to gather up the angleworms before Hookum got to us.

"Row, you blasted idjit, row!" Bootjack kept hollerin'. I was rowin' and gettin' nowheres 'cause our set lines under the boat had fetched up on bottom. I didn't know it then, though. Hookum pointed that out to us afterward.

Bootjack was bouncin' around so desperate tryin' to gather up those worms that the mechanical fish stretcher and the snap-loose wobbler fell out of his pocket, and Old Hookum's big paw was in the boat by that time and cleaned up everythin' with one pass. He must of done it before, in order to get it all in one grab like that.

He looked Bootjack right in the eye and says quiet like, "Well, I guess I caught you red-handed this time, Bootjack. And I didn't sneak around in no brush, either, like you allowed I did last time. And let me warn you that anythin' you say will most likely be held against you."

"As for you," he says, turnin' to me, "You are also under arrest for bein' an assessory before the fact." Or after the fact, or some such thing. I don't remember which.

Well, Bootjack sputtered some, but allowed he'd guess he got caught fair and square. But he blamed me! Says if I hadn't got chicken and run, no warden this side of Tophet could of proved a thing on him.

Well, Old Hookum lit a cigarette, wrote down somethin' in that little black book of his, and says cool like, "Bootjack, you was hooked the minnit you wet a line in this pond. You was so all-fired anxious to try out these here poachin' gadgets you probably plumb forgot the legal trout season closed day before yesterday."

Yup, Operator, we're all through now. Bye, Fred.

ANOTHER STEP TOWARD

SAFER HUNTING THROUGH N.R.A.

Commissioner Roland H. Cobb announced recently that a new step was being taken by the Department in the teaching of firearms safety to young people.

Becoming a co-operating agency in the nationwide program of the National Rifle Association, the Department will use the experience and facilities of N.R.A. to the utmost in the campaign to reduce hunting accidents.

What is the N.R.A. program? How does it work? How can it help us in Maine?

Basically, here's the story: The Department furnishes teaching materials prepared by N.R.A. and is Maine's official records-keeping agency.

Instructors serve voluntarily, reporting their activities to the Department, which, in turn, files reports to N.R.A. in Washington, where the master files are kept.

The basic four-hour N.R.A. Hunter Safety Course is the minimum training period under which a youngster can qualify as an N.R.A. Safe Hunter.

N.R.A. members and members of N.R.A. affiliate groups in Maine have long been teaching firearms safety to youngsters. Under the new program, their activities and those of non-N.R.A. members who teach the official N.R.A. course will be co-ordinated by the Fish and Game Department's Information and Education Division.

This type of combined approach has worked well in other states and resulted in a greatly accelerated program.

Interested persons wanting to be N.R.A.-qualified instructors write to the I and E Division for information. They receive an "inquiry packet," which tells about the course and contains an application and examination.

Those who pass the examination are certified as instructors; they do not have to become members of N.R.A. Their teaching kit contains the instructor's brassard, manuals, and record forms.

Youngsters completing the course are eligible to wear the N.R.A. Safe Hunter shoulder patch and receive official certification from N.R.A.

The new program neither replaces nor interferes with the Woods Safety program sponsored by the Maine Departments of Education and Fish and Game. Instead, it will strengthen it by reaching youngsters in the home through fish and game clubs and other non-educational organizations.

Materials and knowledge are provided for the asking, and the time needed for teaching is modest. The dividends, however, can be invaluable.

Right, Morris F. Dunphey of Bangor, N.R.A. instructor, is one of several men working to teach firearms safety course.

Left, youngsters at range practice with expert instruction at Hampden club's indoor facility.

WITH PATIENCE AND SKILL HE BRINGS OUTDOORS INDOORS

Photos, left to right:

Klir Beck's sensitive hands can breathe life into the tiniest wood carving or a huge oil painting with amazing ease.

Beck often paints in his beautiful study at his Mount Vernon home. His easel, like everything else in this room, is handmade by the artist. The wall paneling is hewed from solid blocks of wood with an adz.

In one corner of his workshop is his carving bench. Here he carves in alabaster, and the ultimate result will be a stained glass window.

The pathetic little figure perched atop a huge mushroom was carved by Beck from a solid piece of oak four feet long. He affectionately calls it his "Little Gnome," and usually drapes his beret on it when he isn't painting.

Wheels, electrical gadgets, belts and whatnot, form a behind-the-scenes part of Beck's fabulous covered bridge exhibit shown at sportsmen's shows this year.

Beck's love of animals is intense. Deer will come running on his spacious Mount Vernon estate at the sound of his voice.

The huge backdrops for his sportsmen's show exhibits are done at his studio in the old Mount Vernon Town Hall. Using an ingenious system of electrically driven gears and pulleys, he can stand in one spot and paint forest scenes 20 feet high.

Typical of how Beck can bring Maine outdoors indoors is this realistic scene which was part of a recent exhibit in Boston.

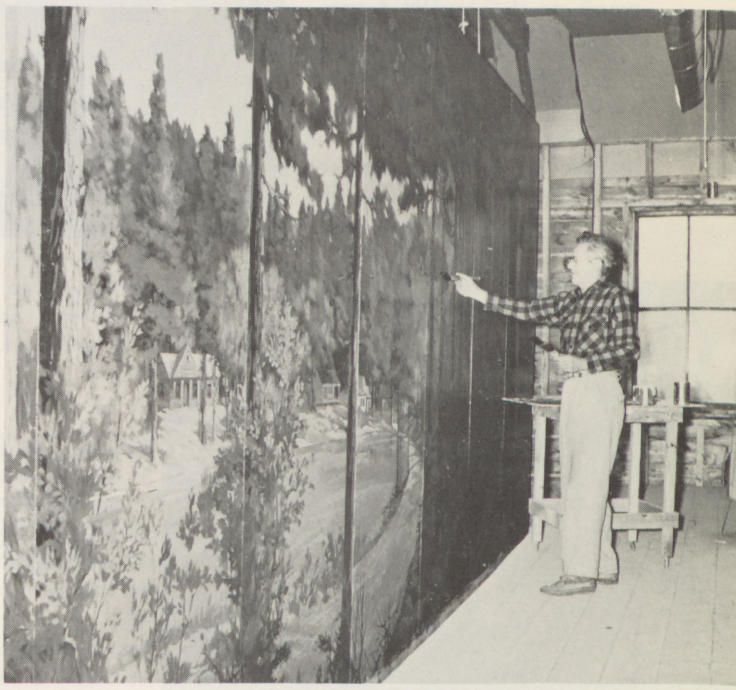
THE FABULOUS
KLIR BECK

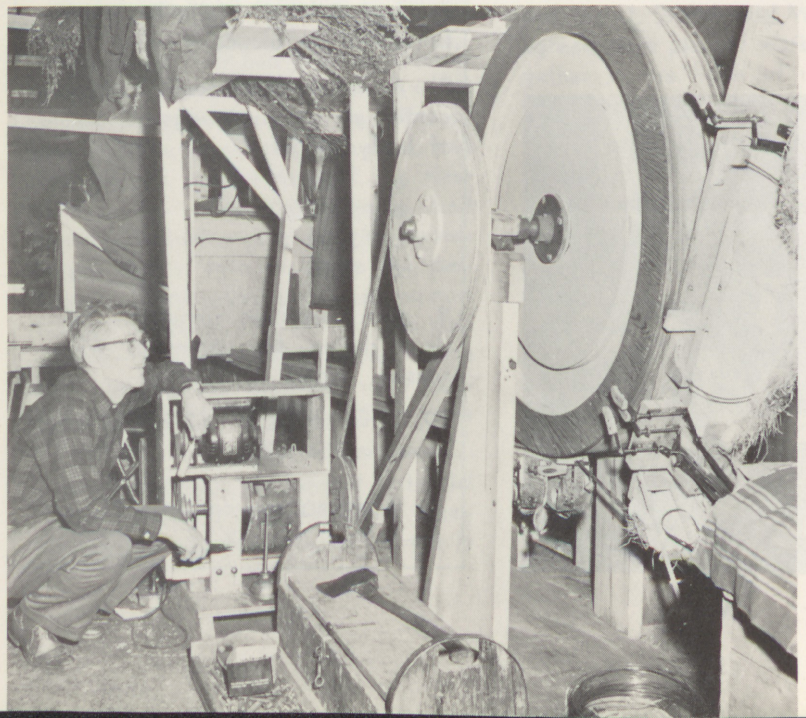
IF ever there lived a man who could interpret the world around him in terms of almost every conceivable form of art, it is Klir Beck. Countless thousands who have viewed Beck's State of Maine exhibits at various sportsmen's showns in eastern cities know him best for his ability to create a woodland scene so realistic that the viewer is automatically whisked away to some forest glen in the Pine Tree State.

Klir Beck, who is on the staff of the Maine Department of Economic Development, once again thrilled thousands with his magnificent exhibit at sportsmen's shows this past winter. He also, somehow, found time to design and establish the new Maine State Museum in the State House at Augusta, and create several other exhibits and works of art.

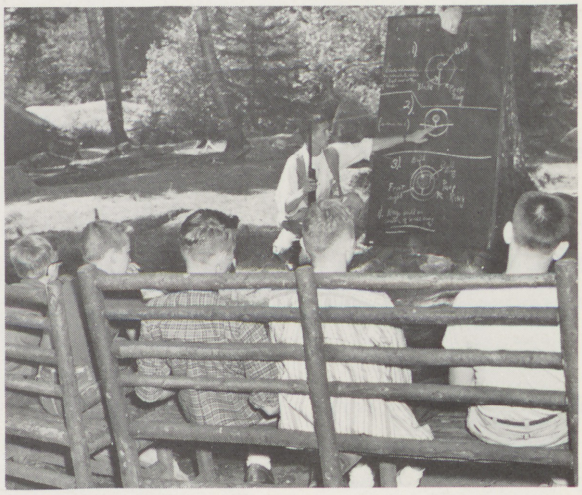
On any summer weekend, hundreds of youngsters and their parents may be seen wandering over Beck's spacious Mount Vernon estate, admiring tame deer in a natural forest setting. His love of animals has resulted in his adopting the role of fawn deer foster parent for the Maine Department of Inland Fisheries and Game.

In his well equipped workshop, which comprises one whole wing of his home, there is every kind of tool for working with wood, metal, and other materials too numerous to mention. To house the big items he creates for exhibitions, Beck uses the old Mount Vernon Town Hall. Here he paints his huge scenic backdrops and builds his shows with the aid of two assistants. He works from a scaffold, using an electrically operated pulley system of his own design to raise and lower scenery two stories high.





Youth *in the* Outdoors



An absorbed group of boys at the Junior Conservation Camp at Branch Lake gets the word on proper use of sights. The summer sessions provide much instruction of this nature.

An instructor in the Junior Maine Guide program gives an examination in the handling of a canoe, one of many such subjects taught each year in a program for boys and girls.

Map, compass, and instructor (kneeling) play an important part as these girls in the Junior Maine Guide program take examinations at the end of the summer session, 1958.

WILDLIFE QUIZ

1. True or false: Maine's black bears hibernate, as a rule, from December to March.

2. The ..... (fish) builds a nest much like a bird's nest.

3. Maine's state bird is the:
   a. bluejay
   b. chickadee
   c. partridge (ruffed grouse)
   d. eagle

4. A certain game fish in Maine — a native of Europe — is known by several names other than the one used in Maine. Some of the names are Von Behr trout, Scotch sea-trout, Swiss lake trout, Loch Leven trout. What do we call this fish?

5. The largest lake trout (togue) recorded in Maine in recent years weighed:
   a. 17 pounds
   b. 23½ pounds
   c. 31½ pounds
   d. 42¼ pounds

6. The beaver's flat tail is used for which of these purposes:
   a. slapping the water as a warning signal to other beavers.
   b. plastering and smoothing mud on beaver dams and houses.
   c. as a sort of seat or prop to steady himself as he gnaws at a tree he is felling.

7. True or false: Maine has a game fish called the blueback trout.

8. A female largemouth bass may contain up to ..... eggs per pound of body weight:
   a. 500
   b. 2000
   c. 3000
   d. 7000

9. The porcupine sometimes helps deer during the strenuous winter season. How?

10. True or false: All Maine trout spawn in the fall.

(Answers are on page 23)

Using fyke nets like this one on the Narraguagus, Commission Biologists Al Meister and Dick Cutting trap young salmon traveling seaward. Information obtained is useful in making estimations of the numbers of young salmon in this and other Maine rivers.

Continued from Page 7

But once the settlers took over, trouble for the salmon began. We have seen that rivers with the steepest gradient, largest volume of water and most constant summer flow are the ones most favored by salmon. These same rivers, of course, are also the ones most favored by industry. Thus with the arrival of industries using water for power, salmon began to be elbowed out of the rivers in which they had been most abundant.

We know today that salmon and industry can exist together in harmony if certain concessions are made to the salmon's living requirements. But for many years these requirements were neglected and the salmon population suffered as a result.

Within five years after the settling of Machias in 1763, for example, the mouth of the river had been completely blocked by dams. These dams put a halt to the upstream spawning migrations of both Atlantic salmon and alewives, and changed the normal flow of the river besides. By 1780 the fisheries had dwindled to such a point that the townspeople passed laws to insure the passage of at least a part of the salmon runs through the dams. These laws and passageways seem to have helped, since both salmon and alewives were considered plentiful for about fifty years afterwards.

The Penobscot, our largest potential salmon river, has many miles of excellent spawning beds and nursery areas in its upper reaches. This river once produced a commercial salmon catch of over 10,000 salmon a year. Between 1873 and 1890 the average catch was 11,955. In 1947, the last year that salmon weirs were legally operated on the Penobscot, the weir catch was estimated at only 40 fish. Even now a few salmon move into the Penobscot each year in spite of the fact that the river continues to suffer from obstructions and dirty water.

ORGANIZING FOR ACTION

Although many people had been concerned with the problem of the declining salmon population, there was no organized program of restoring salmon to our rivers until 1941. Then the Department of Inland Fisheries and Game, Department of Sea and Shore Fisheries, and the U. S. Fish and Wildlife Service agreed on a plan of working closely together in the hope of remedying the situation.

This joint action was followed by the setting up of the Atlantic Sea-Run Salmon Commission by the Maine Legislature in 1947. The three-man Commission holds public hearings and has the authority to do whatever it considers necessary to correct situations in the state where salmon need help. It also makes the regulations that control the taking of salmon in all waters of the state.

Chairman of the Commission at the present time is Horace P. Bond of Bangor. The other two members are Roland H. Cobb, Commissioner of Inland Fisheries and Game, and Ronald W. Green, Commissioner of Sea and Shore Fisheries. The Commission has three full-time biologists on its payroll and is also assisted by a committee that makes recommendations for stocking, fishways, fishing regulations, research, pollution control and all similar activities.

WHAT THE COMMISSION DOES

An important part of the Commission's job comes under the heading of research. Since the science of fishery management is a growing one, the men in this field are always on the lookout for more information that will help them to reach sound conclusions.

For several years a research program has been conducted on the Sheepscot River by the Fish and Wildlife Service, assisted by Commission personnel and men from the Sea and Shore Fisheries Department. This year the Commission launched a new and equally extensive research program on the Narraguagus River at Beddington. A 415-foot weir designed by the Engineering Division of the Fish and Game Department has been built across the river and will go into operation early next summer. The fish-tight fence, which can rightfully claim to be the longest in New England,

This Z-shaped weir across the Narraguagus will be equipped with wooden screens. When in operation it will permit counting of all salmon moving up and down the river.

will be operated the year 'round and will help to fill in many of the blanks that now confront scientists as they seek to know more about the Atlantic salmon and plan ways of helping him to make a comeback to Maine waters.

All salmon moving up and down the Narraguagus will be captured and processed at the weir. Knowing that a mature female deposits about 8,000 eggs at each spawning period, it will be possible to estimate the number of eggs deposited in the upper drainage each year.

By counting the young salmon that travel downstream to the ocean, Commission biologists will be able to reach conclusions about survival rates and also to determine area production figures for the watershed above the weir. This information in turn can be used to determine how many young salmon are produced by other rivers in the state.

Another kind of research the Commission carries on is an annual count of young salmon in each of the major rivers. Sample sites are selected and an electric shocker is used that temporarily stuns the fish so they can be handled. Yearling and two-year-old salmon that have survived the rigors of life can be estimated on the basis of this sampling. The Commission's stocking program is then based on these production figures. Last year 120,000 marked fingerlings obtained from the Fish and Wildlife hatchery at East Orland were stocked in the Penobscot, Machias, Aroostook, Sheepscot, Dennys, and Pleasant Rivers.

Working together, the Commission and the Department of Inland Fisheries and Game have studied in detail each of the salmon rivers and several others besides, making a total of twenty-three rivers on which reports, available to interested sportsmen, have been written. Each study meant a complete covering of the water drainage on foot and by canoe. All spawning and nursery areas were measured, obstructions were recorded, and sources of pollution noted. Examination was also made of the kinds and abundance of food that fish could obtain.

THE OBSTRUCTION PROBLEM

What to do about obstruction to salmon migration has always been one of the Commission's major concerns. Many of these have been taken care of during the past ten years, and plans for the correction of other problem sites are in various stages of being put into effect.

One of the obstructions on the Machias, for example, was there even before the Indians arrived. This is a natural rock gorge just above tide water. During spring runs many salmon were injured as they attempted the leaps necessary to ascend the gorge. Many never made it and lay dead on the rocks below the jump area. The situation was helped considerably when the Commission in 1949 financed and built a series of concrete pools in the gorge. The pools slowed down the turbulent water flow and raised the water level six feet above its previous normal height on the ledges.

For the last two years salmon have been able to pass the last obstruction at Whitneyville on the Machias River and to move into a 50-mile spawning and nursery area that had been closed to them. Last year 365 of these pioneers proceeded up the river past Whitneyville. In so doing they guaranteed a sizeable future increase in the river's salmon population.

Another natural obstruction, this one at Saco Falls on the Pleasant River, was corrected last year. With funds provided by the Commission, the Department of Inland Fisheries and Game, and the town of Columbia Falls, a fishway was built at the lower section of the falls and a channel excavated through ledge at the upper section. (See picture on page 17.) Salmon are now able to make their way easily to Pleasant Lake, headwaters of the Pleasant River. Alewives can also reach the lake, thus providing the Columbia Falls area with commercial fishing for alewives as well as the sport fishing of Atlantics.

On the Aroostook River a new fishway has been built at Caribou and is now in operation. This river will also have a fishway at Tinker Dam in the near future. Plans have been drawn up and the money appropriated for a fish pass at Tinker Falls which will combine the conventional pool type fishway with an elevator to transport fish around the dam.

A complete study of the St. Croix River has been made by the Commission and the report and recommendations are now in the hands of the International Joint Commission. Included are plans for fishways at Calais and Grand Falls.

At Cathance Stream, main tributary of the Dennys River, cooperative efforts on the part of a dam owner, the Commission, and the Department of Inland Fisheries and Game will have a good effect on salmon in the Dennys. The project involved, among other things, removing debris at the old dam site on Cathance Stream and also a section of rock ledge. This is another instance where alewives as well as salmon will stand to profit.

Plans for a new fishway on the Sheepscot at Coopers Mills have been completed and construction will begin in the near future.

A LONG-RANGE PROJECT

This has been only a brief sketch of the campaign being waged on behalf of the Atlantic salmon. A full account would not only list other accomplishments and describe what has been done in greater detail but would also give credit to all the individuals and groups, including towns, industries, fish and game clubs, and many of the others who have taken an important part in it. The gains made so far have been possible largely because of their interest, cooperation, and generous contributions of time and money. With such support the future of the Atlantic salmon looks bright.

One thing is certain—each improvement that permits even a relatively few salmon to complete their life cycle by reaching suitable spawning grounds will insure a far greater proportion of these fine game fish in years to come. It takes time for each salmon to complete all the stages of his development from the time he begins life as an egg in a gravel nest until he returns as a mature adult to produce young of his own. Each improvement, therefore, can become evident only after at least one such cycle has been completed. After that the results are multiplied many times. Just as a single ancestor contributes many branches to the family tree, in the same way a few salmon can increase the future population of a river as succeeding generations return year after year to the old homestead. A long-range project, yes, but one that gives increasingly abundant returns.

Photo: LAURENCE F. DECKER

Salmon using this denil-type fish ladder at Saco Falls are able to make their way easily up the Pleasant River.

Continued from Page 5

Double-check: To recheck the boundaries of our problem area, a separate regional study of deer condition was carried out. This also served to point out differences within the forest and farm-woodland sections. In brief, the recheck entailed dividing the state into regions, or herds, in which yearling deer showed significant differences in antler development. Other physical and productive characteristics of deer were then compared for the separate regions. Records of 1,950 yearling males and about 14,000 other deer were used for these comparisons.

Despite the different approach, regional boundaries (Figure 2) separating the five herds tied in, generally, with both land-use and winter range differences noted in the earlier study. Ranking of the five regions on the basis of yearling antler diameters ranged from best to poorest as follows:

1. Southern farm-woodlands
2. Northern farm-woodlands
3. Southern Hancock-Washington counties
4. Forest border
5. Forest interior

When other indications of the physical and productive condition of the herds were compared, the same general ranking held true. As shown in Table 2, young deer from the two farm-woodland regions had better antlers, weighed more, and were bigger in body size (hind foot measure) than those of the two forest regions. Likewise, the farm-woodland herds were more productive from the standpoint of capability to produce fawns and to rear them successfully. The southern Hancock - Washington county herd, in contrast, alternately showed characteristics common to both farm and forest regions. However, over-all, it ranks between the two.

That these regional differences in deer condition are reflections of winter range quality is evident in the comparison below:

Region	Deer condition rank	Percent over-browsed yards	Number yards surveyed
Southern farm-woodlands	1	11	101
Northern farm-woodlands	2	8	25
So. Hancock-Washington	3	19	21
Forest border	4	35	180
Forest interior	5	34	114

REASONS FOR REGIONAL DIFFERENCE

Many interrelated factors are involved in the regional differences in deer and range condition found in the state. However, if we compare our better and poorer regions, obvious differences are readily apparent in land-use, climate, human population, hunting pressure, and access (Table 3).

Within our best region (southern farm-woodland) we find the highest proportion of land in farms and pine-hardwood woodlands (with a relatively mild winter climate), creating a favorable all-year habitat for deer. On the other hand, the region has the highest human population density and best network of roads, resulting in the greatest hunting pressure. Together, the factors add up to create a productive, high, deer population, heavily harvested but in good condition.

At the other extreme (forest interior) there exists a combination of uninhabited, spruce - fir - hardwood forests, severe winters, limited access, and low hunting pressure. The pattern of commercial timber and pulp operations in the past has created short-term favorable food condition for deer, followed by periods of food scarcity. Uncontrolled by man, the deer herd has fluctuated from low to high abundance. At the present time, a series of mild winters, opening of new country to cutting, and an increase in the number of permanent roads have resulted in a higher kill in the region. However, underharvesting of the herd is still a major problem.

Much of the above also applies to the forest border region. Heavier hunting pressure could be expected from transient hunters. However, since the present early opening season extends well south of the region, much of the early hunting pressure does **not** enter the forest border.

The southern Hancock - Washington region has many of the qualities of the southern farm-woodland region. In past years, it probably had more deer than any other section of the state. However, failure to control the herd has produced the inevitable results. Herds are

TABLE 3. CHARACTERISTICS OF THE REGIONS

Region	Percent Land In Farms	Human Population Per Sq. Mile	Relative Accessibility	Relative Hunting Pressure	Deer Kill Per Sq. Mile Deer Range	Kill Trend 1947-57
Southern farm-woodland	44	75	Excellent	Heavy	2.6	Up
Northern farm-woodland	38	38	Fair to good	Light to moderate	0.8	Up
So. Hancock-Washington	24	18	Fair to good	Moderate to heavy	2.3	Down
Forest border	10	9	Fair	Moderate	1.4	Down
Forest interior	2	2	Poor	Light	0.5	Up

no longer as large or as productive. With fewer deer and lower hunting success, hunting pressure has shifted to more favorable territory. As a result, the kill has declined in recent years.

A small deer herd in the intensively cultivated potato farmlands and relatively high hunting pressure in the adjacent forest keep the northern farm-woodland region in good condition. Although the region over-all has a low kill per square mile, relative to the deer numbers, the harvest is adequate.

Over-shooting is most popularly accepted as the cause for herd and kill decline in much of the forest border and southern Hancock - Washington regions. More basic, however, is the low productivity now evident in those herds. Poorly nourished does are not rearing the number of fawns that could be expected from a well-fed herd. Consequently, fall herds are not as large as in the past. Shooting fewer deer would only increase the problem since there would be more deer competing for winter food.

If over-shooting did take place over any extensive area, it logically should occur in the southern farm-woodlands. There, hunting pressure in the past ten years has increased as much as, or more than, in any other section. Yet, over-all, the kill and the herd have held up better than in any other region.

Author Chester F. Banasiak inspects icy hollow made in snow by sleeping deer. Extreme weather conditions take their toll of deer that are undernourished and weak.

WHAT WE CAN DO

Our present regulations which grant a longer, earlier-opening season in the northern counties are basically sound. However, county lines do not conform with boundaries found for winter range and deer condition differences. As a result, early hunting pressure (which should be channeled into our forest regions) concentrates in farm sections of southern Franklin, Somerset, Piscataquis, and Penobscot counties where it is not needed.

On the other hand, Hancock and Washington counties now are subject, along with the remaining southern counties, to a month-of-November season. There are differences between northern and southern portions of those counties; but, as a whole, range and deer conditions are not equal to those of farmlands west of the Penobscot River.

To obtain additional harvests in the regions where our herds are now underharvested, adjustments of season boundaries are necessary. These changes should conform to the differences found in winter range and deer condition. Therefore, it is recommended that the boundary of the early-opening northern season be relocated from settled farm country into the "big woods" section.

WHAT WE WILL GAIN

Heavier fall harvests in the big woods sections will relieve the pressure on our limited winter range. Browse supplies will, therefore, last for a longer period, and provide a more adequate winter diet. Better nourished herds will eventually become more productive, producing larger fawn crops relative to the winter herd. As production increases, fall herds will again approach the size now existing, despite the smaller wintering herds.

Moderate sized, more vigorous herds will also minimize normal winter losses. In addition, rapid recovery can be expected from losses suffered because of severe winters or any other cause.

The relocation of the northern zone boundary will also help lessen hunter concentration in settled sections now included in the early opening season. Sportsman and landowner relationships should thereby improve. However, it should be pointed out that adjustment of hunting pressure is likely to result in reduced kills in this section.

Redistribution of hunting pressure will not, however, solve all of our deer problems. It cannot provide for more deer where the range is now supporting the maximum. Likewise, the adjustments will not insure proper harvests in all local areas. Some areas will continue to be underharvested while others will be over-shot. Nevertheless, the proposed adjustments will put management of the statewide herd on a sounder basis.

Whether the proposed changes will still be valid five or ten years from now cannot be foreseen. Changes in hunting pressure, land-use, and access will undoubtedly continue as in the past. Only by continued periodic appraisal of deer and range condition can we measure the effects of such changes.

Co-operation of woods-using industries in cutting methods helps deer food conditions but is not the complete answer. Group here looks over browse in cuttings at Penobscot Experimental Forest in Penobscot County.

CONSERVATION EDUCATION — A LADDER OF YEARS

THE THIRD OPERATING SUMMER OF THE CAMPUS AT CHRISTOPHER LAKE FINDS INTEREST AT A NEW HIGH

IN the two years since 1956, nearly 300 Maine teachers have attended training sessions on a subject that's fairly new to Maine. Conservation Education is the subject, and 1956 is the bottom rung in a ladder of years leading to the future.

This fanciful ladder now has three rungs, with the fourth one — 1959 — about to take its place. And with each succeeding rung, our teachers will more and more be given the means of helping insure a pleasant and profitable future for the adults of tomorrow.

Enrolling 27 teachers in 1957 and 78 in 1958, the Freeman-Waterhouse Conservation Education School at Bryant Pond has grown physically as its enrollment has grown. As more teachers attend through the years, the instruction they receive (and pass along) on the wise use of resources should produce an awareness in youngsters that our natural resources are not limitless.

In the first year—a "pilot" year—the buildings on the campus were much the same as they were when Mrs. Lillian Waterhouse of Portland donated them for the school. But 1958 saw a considerable change. Two new dormitories were completed, a well was drilled, and the lodge — the main building — was modified, the better to suit its new purpose.

This pattern of improvement is continuing. Planned for construction soon is a combination classroom, dining room, and recreation hall. Its estimated cost is $15,000, including the furnishings. Most of this money has been pledged by people who are keenly interested in Maine's future.

These two new dormitories, completed in 1958 at the Bryant Pond campus, represent the latest step in improving facilities. Each dorm accommodates 16 students, with twin beds in eight bedrooms; there is a living room and porch overlooking the lake.

When the 40' by 100' building is erected, the kitchen will be moved there from the lodge. Franklin A. Downie, the new director of the program, plans to use the main floor of the lodge as a library and study area.

Not all of the state's conservation education instruction takes place on the campus at Bryant Pond. Last year, two in-service workshop sessions were held during the school year. About 180 teachers attended these three-day sessions which included classroom work (lectures, movies, demonstrations, and so on) as well as field trips.

The Conservation Curriculum Workshop, whose importance will be demonstrated in years to come, will be held this year at the University of Maine campus in Orono. This course is concerned with producing, for use in schools, instructional materials on natural resources conservation.

The most important conservation education sessions are spread throughout the state, throughout the school year. These are the classes involving our young people, who should use resources wisely tomorrow as we should use them today. If the enthusiasm of the teachers is contagious—and there are signs that it is—our boys and girls will learn well the necessity of conservation. They will be awake to the necessity of using intelligently our woods, waters, wildlife, and other natural resources.

As more rungs have been added to the ladder of years, there has come the realization that no longer can we leave Tomorrow to shift for itself. Today must take care of Tomorrow, and a valuable part of that care is getting its start at Bryant Pond.

PROGRAMS and PROGRESS

A REPORT ON RECENT DIVISIONAL ACTIVITY

HATCHERY DIVISION: These spring days are finding Hatchery Division men concerned with plans and preparations for stocking brooks and streams.

The 1958 total of fish planted in Maine inland waters was up considerably over the 1957 figure. Brook trout and salmon—100,076 and 30,092 pounds, respectively—accounted for most of the increase. The total weight of fish planted last year was 145,716 pounds, compared with 93,842 pounds in 1957. Trout and salmon made up the bulk of the weight.

The new hatchery at Enfield is operating, having been completed last December. On hand are more than a half-million fish and eggs (trout and salmon). Most of about 40,000 legal trout at Enfield will be stocked this spring. Earlier this year, 200,000 salmon eggs were taken there for incubation, and 300,000 trout fry also arrived at Enfield.

This new hatchery, one of the most modern in the nation, is scheduled to be dedicated this summer. Gerry Wade, Superintendent of Hatcheries, says that the unit will be used primarily for raising about 200,000 trout and salmon through two growing seasons. The new hatchery will serve the five counties in its vicinity.

GAME DIVISION: During the winter and spring months, work was completed on a manuscript of a major bulletin on the white-tailed deer in Maine. Deer yard studies are being streamlined to get information on the trend in food conditions. Biologists are checking to see if food in various yards is improving or declining in relation to the number of deer which must be supported. An analysis is being made of the 1958 legal deer kill, and the year-to-year study of deer-bob cat relationships is continuing.

In marsh work, a study will get underway to experiment with various marsh treatments on the Madawaska Game Management Area to find the best way to make it a better marsh. Surveys and designs have been completed for building small marshes, and plans were advanced for the evaluation of this program.

Biologists are working in deer yards on land owned by several timber companies planning adaptations of timber cuts to preserve necessary cover.

With warmer weather comes a shift in work accent. The nesting season of game birds calls for surveys to aid in management. The breeding pair counts start in April and are followed by counts of nesting birds and broods of young. In April and May also comes the woodcock census—the count of singing males during the breeding season.

The winter's work was spent largely on deer yards, and time was spent on planning for work which can be done only in the warmer months.

FISHERY DIVISION: The electric shocker will figure prominently in the field work of the Fishery Division this summer. A valuable aid in finding out what species and how many fish are in our streams, the shocker stuns the fish long enough for them to be examined and counted. Lyndon H. Bond, Coordinator of Fishery Research, says that stream work will be stressed. The lake and pond survey program has come to the point where the most popular fishing waters have been surveyed. Consequently, the pace of the program can be slowed, with necessary work going ahead in other fields.

Creel censuses will be taking place in several parts of the state, notably the Rangeley Lakes and Fish River Chain of Lakes areas and on Belgrade Stream. Intensive research studies are going on there and can be helped by the cooperation of anglers. Returning the tags from tagged fish is of great value to these programs and will pay off in better fishing.

Pond reclamation work will be continued this year at about the same rate as in 1958. Sea-run brook trout are still under study in Washington County. The Atlantic salmon study, with efforts concentrated on the Narraguagus River for a study of spawning factors, will move ahead. Conducted by the Atlantic Salmon Commission, with co-operation by the Fish and Game Department, the study will make use of a 415-foot counting weir that's just being completed on the Narraguagus.

WARDEN SERVICE: Twenty wardens attended warden school sessions at Camp Keyes in Augusta, over a three-week period in March. Two of the men are new to the service, and the other 18 received refresher courses. Among the subjects covered are law enforcement, court procedures, rules of evidence, public relations, and familiarization courses with management operations of both the fishery and game divisions. First aid was taught by Warden Supervisor Wendell Brown and by a Maine Civil Defense instructor. Passing the course certifies the wardens as first aid instructors.

Wardens are being equipped with state-owned cars, half the vehicles being purchased this year and half in 1960. Chief Warden Elmer H. Ingraham says the wardens showed a preference for having state cars. He expects the cost to be about the same as that of the present system of paying wardens on a mileage basis for using their own cars.

ENGINEERING DIVISION: During the past months, engineering personnel have remodeled the dwelling unit at the

old Enfield Hatchery. It will be used as living quarters by Warden Pilot Andy Stinson and his family. Further plans are to use the lower level of the building as a headquarters for the biologists of both the Fishery and Game Divisions.

Other winter work of the Engineering Division produced designs for several construction projects. Chief Engineer Laurence F. Decker reports that designs were made for a fishway at the Gorge on the Machias River at Machias; new, all-metal pens for wildlife exhibits at the Game Farm; a new, all-metal hangar and accessory buildings to replace outmoded units at Greenville; a fishway and conveyor for Tinker Falls on the Aroostook River; and several dams for the small marsh program of the Game Division.

Work planned to be done by the division's employees includes the reconstruction of a fishway at Cooper's Mills on the Sheepscot River and the reconstruction of a dam and fishway at Little Falls on the Pennamaquan River at Pembroke.

Construction of the new plane base at Greenville will be done under contract, and several small marshes will be built under Engineering Division supervision.

INFORMATION AND EDUCATION DIVISION: Since the I and E Division has no research projects, its work, as a rule, stays within certain bounds. Those bounds have been enlarged in recent months — first of all, by the decision to publish **Maine Fish and Game.**

Moving into the magazine field meant many planning sessions as well as preparing and editing copy, taking and printing photographs, and so on. Incidentally, **Maine Fish and Game** will be glad to hear from readers; we plan to include a Letters Department in future issues.

Winter months, when field activity is relatively low for most of the divisions, are taken up with much planning for work in months ahead. That holds true for I and E along with the other divisions.

Plans have been made for increasing radio and television coverage of department activities while keeping up the standards we have set for other news media. "Increasing," in this instance, means providing more film and tape to television and radio stations, to accompany news stories sent to all media.

Planning has also been done on the N.R.A. Hunter Safety program (see story on page 11).

GAME FARM: Although the pheasant is not legal quarry for some months, Game Farm Manager John Bentley and his men are talking pheasants right now. The process is starting to move and will result in the liberation of more than 25,000 pheasants in Maine covers this fall. Eggs are being produced now by the brood stock of about 2,000 birds. After three to four weeks, the incubators are full of tiny chicks. Six weeks later, around 8,000 chicks are farmed out to clubs and individuals. They are raised under a co-operative plan in which the Department releases a similar number of "matching" birds in areas where co-operators make releases.

The Game Farm has undergone quite a bit of renovation in recent months. A new water line was put in, pens and runs were repaired, and other work was done to improve the farm. Plans also call for moving the site of the wildlife exhibit which is enjoyed by hundreds of summer visitors each year. New, all-metal pens and cages will be provided.

Answers to Wildlife Quiz on Page 14

1. Bears are often said to hibernate, but whether they do or not depends on how you define "hibernate." True hibernation involves a marked reduction in respiration, pulse rate, and body temperature. These factors don't represent the dormant period bears go through in Maine. They enter a period of prolonged dormancy or lethargy during which such functions as eating, etc., are discontinued. It's not considered, scientifically, to be hibernation, but is, nevertheless, often referred to as such.

2. The male of the stickleback family—of which Maine has several species—builds a small nest, about the size of a walnut, among the aquatic vegetation in quiet water. After eggs are laid, the male guards them and the nest, which is made of twigs and grasses. He also guards the young for a short time after they hatch, and he will attack fishes much larger than he is.

3. The chickadee.

4. The brown trout.

5. A togue weighing 31½ pounds was caught in Beech Hill Pond in 1958. It was taken by Hollis Grindle of Ellsworth.

6. The first and third answers are correct. While there has been much talk of the beaver's using its tail as a trowel, biologists generally say that such use is very rare.

7. True. The Rangeley Lakes once contained a large population of blueback trout, but the species apparently became extinct there in the early 1900's. The continuing inventory of Maine waters has reported them in recent years, however, but in fewer than a dozen northern ponds.

8. Seven thousand. The eggs are laid only a few hundred at a time, as a rule, and then the female moves on to another nest to deposit more eggs. The nests are built and guarded by the males.

9. Porcupines, chewing at foliage of trees, let twigs and branches fall to the ground where they are available as food for deer.

10. False. The rainbow trout, which spawns in the spring of the year, is the only Maine trout to do so. Other Maine trout, however, spawn in the fall.

DANGER IN THE BAIT PAIL

ROBERT E. FOYE
Fisheries Biologist

WHAT HAPPENED TO ALL THE TROUT IN THIS POND?

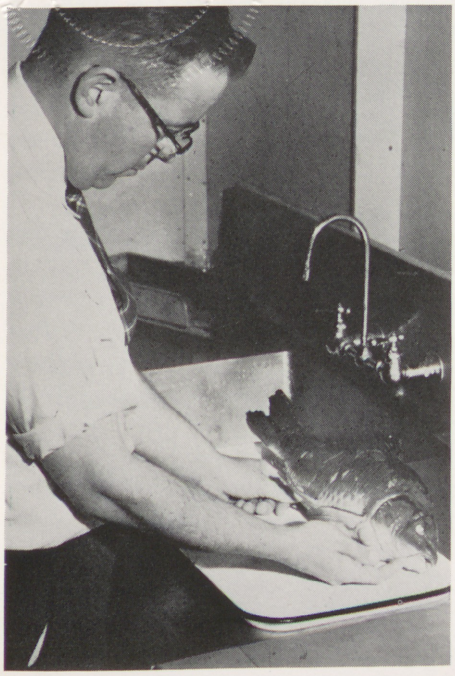
HOW DID YELLOW PERCH GET IN HERE?

HOW COME WE CATCH A LOT FEWER BASS IN THIS LAKE?

Fishery biologists working for the Inland Fisheries and Game Department are often asked questions like these. In many places around the state the answer is simple — somebody dumped his bait pail at the end of a day's fishing and these rough fish released in the pond are now thriving at the expense of other more desirable species.

THE live bait problem is one that has fishery biologists worried. Here are some of the reasons.

We know, for example, that many kinds of fish use the same natural food. We also know that some fish, like yellow perch, produce greater numbers of young than some other kinds such as trout.



When yellow perch and trout live in the same pond the more numerous perch eat most of the small aquatic insects, and the trout are often unable to find a square meal. Other fish, like pickerel, consider trout a delicacy and often include them in their daily menu. Technically this is referred to as competition.

Where have the trout gone? You now have the answer.

Certain fish carry tiny parasites and bacterial diseases that can be harmful to our important game fish. Most of these tiny organisms go unnoticed. When fishermen using small live fish for bait allow these fish to go free at the end of a day's fishing, the infected bait spreads the parasites and bacterial diseases to healthy fish. The bass tapeworm is spread in this way and is responsible for the declining bass populations in many waters.

Why are bass less plentiful now in some lakes? Now you know.

The live bait problem is so serious that the Inland Fisheries and Game Department is taking steps to prevent any further introduction of unwanted fish and to halt the introduction and spread of fish parasites and diseases.

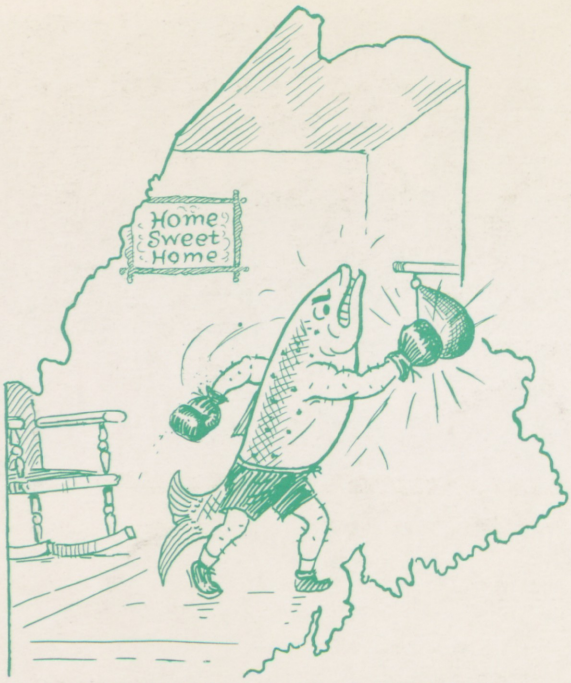
One of the ways the Department hopes to achieve this is by informing the public. The Department, through its Information and Education Division, will point out the seriousness of the problem, what has caused it, and how it can be controlled.

Another way is by means of legislation. The Department has sponsored a bill in the 1959 session of the Maine Legislature which would make it unlawful to use yellow perch, pickerel, carp and several other kinds of fish, either dead or alive, for bait, thus preventing their further introduction. The recommendation would prohibit the sale of these fish by bait dealers who each year sell thousands of small fish for bait purposes, and would also prohibit the importing of bait fish from out-of-state waters.

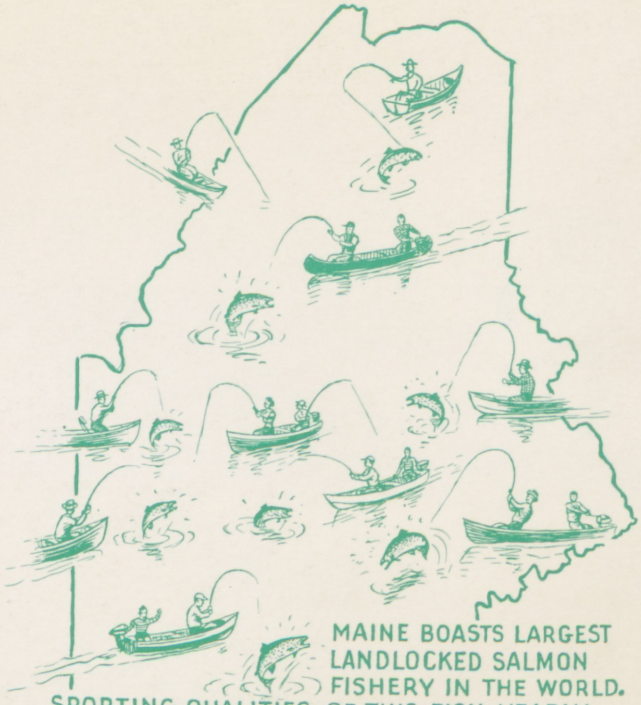
The Department hopes that an increased awareness of the problem on the part of the public, together with suitable legislation, will help to preserve Maine's famous and widely-acclaimed sport fishery.

Author Bob Foye examines a six-pound carp taken from the waters of Merrymeeting Bay.

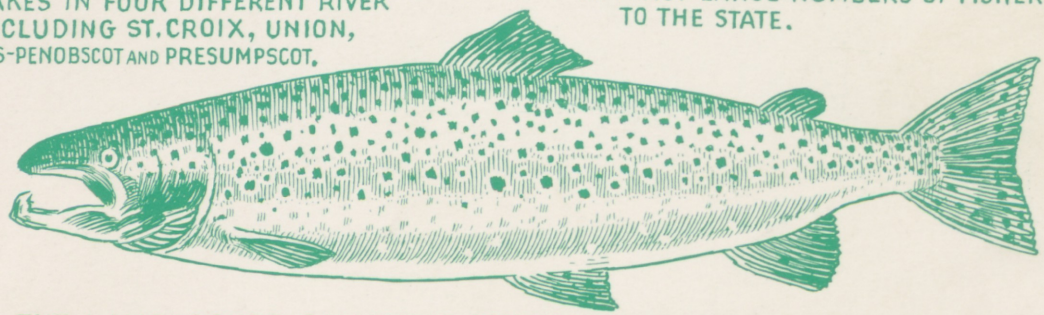
Daicey Pond and Mt. Katahdin, Baxter State Park



MAINE IS THE ORIGINAL HOME OF THE FIGHTING LANDLOCKED SALMON. ORIGINAL DISTRIBUTION WAS IN LAKES IN FOUR DIFFERENT RIVER BASINS INCLUDING ST. CROIX, UNION, PISCATAQUIS-PENOBSCOT AND PRESUMPSCOT.



MAINE BOASTS LARGEST LANDLOCKED SALMON FISHERY IN THE WORLD. SPORTING QUALITIES OF THIS FISH YEARLY ATTRACT LARGE NUMBERS OF FISHERMAN TO THE STATE.



THE LANDLOCKED SALMON IS CONSIDERED TO BE THE SAME FISH STRUCTURALLY AS THE ATLANTIC SALMON, BUT HE STAYS IN FRESH WATER AND DOESN'T GROW AS BIG AS HIS SEA-RUN RELATIVE.

MANAGMENT INCLUDES KEEPING IMPORTANT SPAWNING AND NURSERY AREAS OPEN TO MIGRATION. FISHWAYS PLAY AN IMPORTANT ROLE IN MAINTAINING GOOD LANDLOCKED SALMON FISHING WHERE MIGRATION ROUTES ARE OTHERWISE BLOCKED.

AVERAGE AGE OF LANDLOCKS IN FISHERMAN'S CREEL IS 4 YEARS. MOST FEMALES FIRST SPAWN BETWEEN 4 AND 5 YEARS, MOST MALES BETWEEN 3 AND 4 YEARS. FEMALES PREFER TO DIG THEIR NESTS IN COARSE RUBBLE OR GRAVEL-RIFFLE AREA IN STREAM.